#### PROFESSIONAL LANGUAGE IN LANGUAGE EDUCATION

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#### **SUMMARY**

**Introduction.** The use of 3-5 languages where professional language is one of them is of the greatest importance in order to form varied cooperative networks for the creation of new knowledge.

The Aim of the Study. To identify and analyze professional language on the pedagogical discourse in language education.

Materials and Methods. The search for the "professional language" definition in language education on the pedagogical discourse involves a process of analyzing the meaning of key concepts and empirical study.

**Results.** The study presents a potential model for development indicating how the steps of the process are related.

**Conclusions.** Professional language offers many interesting opportunities for language education lifelong, life-near and lifewide.

Key words: professional language, language education

### **INTRODUCTION**

The use of 3-5 languages where professional language is one of them and of independent and responsible, original in terms of viewpoints and opinions, general view of life and action to form varied cooperative networks for the creation of new knowledge are of the greatest importance for the development of humans, institutions, society and mankind (Maslo I., 2006a).

### THE AIM OF THE STUDY

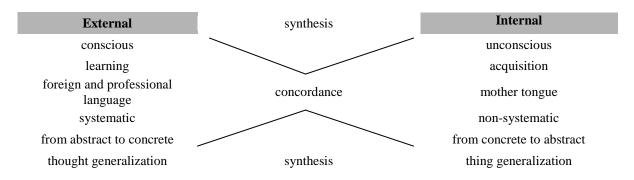
To identify and analyze professional language in language education on the pedagogical discourse.

# MATERIALS AND METHODS

The modern issues of global developmental trends emphasize "a prime importance in sustainable development that is to meet the needs of the present without compromising the ability of future generations to meet their own needs" (Zimmermann, 2003). Hence, sustainable personality is a person who sees relationships and inter-relationships between nature, society and the economy (Rohweder, 2007). In other words, this is a person who is able to develop the system of external and internal perspectives, and in turn this developing the system of external and internal perspectives becomes a main condition for the sustainable personality to develop. For instance, the concern of the European Union, namely, to become "the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion" (European Commission, 2004) demonstrates the significance of developing the system of external and internal perspectives for the development of humans.

Thus, the life necessity to develop the system of two perspectives, namely, external and internal, determines the research methodology on definining professional language in language education on the pedagogical discourse (See Table 1):

Table 1: Developing the system of external and internal perspectives as a life necessity



However, in real life sustainable personality is often realized from one of the perspectives: from the internal perspective accentuating cognition, from the external perspective accentuating social interaction, finding a balance between the external and internal perspectives (Surikova, 2007).

The methodological foundation of the present research to further identifying professional language in language education on the pedagogical discourse is formed by the System-Constructivist Theory.

The System-Constructivist Theory assumes that the world is constructed in modules (Maslo I., 2006c). New Constructivism supposes that any understanding is not separated from the observer and reality is socially constructed that is confirmed by people who are at close quarters (Maslo I., 2006c; Maslo E., 2006). Constructing is a creative process that assumes a variety of meaning understanding to offer a variety of opportunities to construct mankind development (Maslo I. 2006c). Constructive process is always situational (Lamberigts and Dīpenbroks by Ose, Surikova, Fernāte, Daniela, Kalniņa, Maslo, 2008). Cognitive process is considered to be a component by the Pedagogical Theory of Social Constructivism: perception is not right or wrong but it is relevant to a place or conditions (Maslo I., 2006c; Maslo E., 2006).

Hence, the System-Constructivist Theory emphasizes that human being's point of view depends on the subjective aspect: everyone has his/her own system of external and internal perspectives (See Table 1) that is a complex open system (Osberg, 2008; Rudzinska, 2008), experience plays the central role in a construction process (Maslo, E., 2007).

The mechanism of social constructivism (Žogla, 2007) is seen as follows: participants get word meaning not tasting it but acquire understanding, learning with understanding (interpretative cognition), to discuss and join word meaning working in groups, to improve word meaning one from another, to participate in the self-evaluation and mutual evaluation of newly constructed word meaning: work creatively and productively.

Thus, four approaches to realizing professional language on the pedagogical discourse are revealed: from the internal perspective accentuating cognition, from the external perspective accentuating social interaction, finding a balance between the external and internal perspectives and developing the system of the external and internal perspectives.

The fourth approach is considered to be applicable to the present research on defining professional language in language education on the pedagogical discourse.

Moreover, the author's position on the topic of the present research, namely, developing the system of the external and internal perspectives, is reflected in the principles of mutual sustainability and mutual complementarity based on the methodology of the present contribution. The principle of mutual sustainability means to provide a complex of possibilities that allows for everyone to learn (Панов, 2007). And the reflected principle of complementarity points that opposite things (principles in the context of the present research) supplement each other for finding the truth (Grabovska, 2006).

Hence, the present research is a social product where the prerequisite is dialogue (Ольшанский, 2000).

The search for the "professional language" definition on the pedagogical discourse involves a process of analyzing the meaning of key concepts "language education", "language teaching/learning", "concept formation" Moreover, the study demonstrates how the key concepts are related to the idea of "professional language". The study would present a potential model for development indicating how the steps of the process are related following a logical chain: a historical perspective on professional language  $\rightarrow$  professional language in language education  $\rightarrow$  professional language in language teaching/learning  $\rightarrow$  characteristics of professional language  $\rightarrow$  definition of professional language  $\rightarrow$  empirical study.

# A Historical Perspective on Professional Language

Lubīna (2002) reveals that professional language appeared initially as the result of the division of work, when science and trade developed. Professional language consists of certain methods of science and notions. This language is a universal means of communication in a certain sphere of work. The following categories of professional language are determined (Lubīna, 2002): as a means of information; as a social unit; as a part of language system; as a functional style and as a means of communication.

Hence, professional language is an integral part of communication in a certain professional sphere.

## **Professional Language in Language Education**

"National" language(s) are used in schools (Byram, 2006) as a school subject and as language across the curriculum (Aase, 2006). M. Byram (2006) emphasizes that for some children, and consequently, students, this means learning to read and write, and then speak, a different language from the language of the home: "such children are not learning their "mother" tongue" (Byram, 2006).

Learning is realized as professional activity (Maslo, I., 2006b) and, consequently, language for learning is considered as a language for professional activity.

Hence, professional language is initially seen as a "national" language for professional activity.

## Professional Language in Language Teaching/Learning

The interconnection between professional language and language teaching/learning can be illustrated by the model of English language teaching/learning.

Hutchinson and Waters (Hutchinson, Waters, 1987) represent English language teaching/learning in the form of a tree: the tree of English language teaching/learning is nourished by its roots which are learning and communication. There are three branches of English language teaching/learning, namely, English as a mother tongue, English as a foreign language and English as a second language.

Then, English as a second language and English as a foreign language and, consequently, professional language, include the similar branches: General English (GE) and English for Specific Purposes (ESP) (Hutchinson, Waters, 1987).

The branch of English for Specific Purposes (ESP) involves three branches, too (Hutchinson, Waters, 1987). This division depends on the purpose of studying English: English for Science and Technology (EST); English for Business and Economics (EBE); English for Social Science (ESS).

Every of these branches is divided into two: for work and for academic study which have their own branches and show the level that is needed by learners.

Thus, purpose of studying language is emphasized within language teaching/learning.

### **Characteristics of Professional Language**

Vygotsky's semiotics of language development are to be found within concept formation (Robbins, 2007), namely, spontaneous and scientific concepts.

Brain activity as an intrapersonal process reveals cyclic nature of development (Maslo I., 2006c) that emphasizes that theoretical findings focused on children are equally applicable to adult development (Benson, 1995).

The term *concept* is defined on the prevailing psychological discourse as complex and genuine act of thought that cannot be taught by drilling but can be accomplished only when the child's mental development itself has reached the requisite level (Vygotsky, 1934/1962). L. Vygostky emphasized that at any age, a concept embodied in a word represents an act of generalization (1934/1962). Concepts on the prevailing pedagogical discourse present forms or levels of knowledge (Žogla, 2001) as a structural component of experience that is subjective, individually unique (Žogla, 2008).

Spontaneous concepts are mainly developed through individual's mental efforts (Vygostky, 1934/1962). A characteristic of everyday/spontaneous concepts is individual's lack of conscious awareness of relationships (Vygostky, 1934/1962). The direction of spontaneous concept's development is from the bottom up, from elementary and low features to high type's features (Vigotskis, 2002): from certain complexes to a spontaneous concept. Five basic forms of complexes determined by L. Vygotsky also outline particular features of thinking called creative thinking (Мельникова, 2003): complex of association; complex of collection; complex of chain; complex of diffusion; a pseudo-complex.

L. Vygotsky emphasized the significance of individual's course of development through all the stages of spontaneous concept forming: from certain complexes to a spontaneous concept (Мельникова, 2003).

Scientific concepts that also comprise professional concepts (Mylett, Gluck, 2004) (that is why and professional concepts in the present research) can be created only if individual's spontaneous concepts reach a definite level (Vigotskis, 2002). Characteristics of scientific concepts are determined by L. Vygostky (1934/1962) as individual's reflective awareness and deliberate control.

Scientific concepts and professional concepts develop from the top down, from a higher type's feature to a low one (Vigotskis, 2002) and are decisively influenced by adults (Vygostky, 1934/1962) and/or teachers in the frame of the present doctoral thesis.

In the scientific concepts the relationship to an object is mediated from the start by some other concept (Vygostky, 1934/1962).

L. Vygotsky points out (2002) some factors of forming spontaneous and scientific concepts where inner and outer conditions of forming spontaneous concept are different from inner and outer conditions of developing scientific concept: the two processes – the development of spontaneous and of non-spontaneous concepts – are parts of a single process (Vygostky, 1934/1962) (See Table 2) where the rudiments of systematization first enter the individual's mind by way of his contact with scientific concepts and are then transferred to everyday concepts, changing their psychological structure from the top down (Vygostky, 1934/1962).

Table 2: Theses of L. Vygotsky's theory on the development of spontaneous and scientific concepts

## **Spontaneous Concepts**

- developed through individual's mental efforts;
- individual's lack of conscious awareness of relationships;
- part of a single process;
- direction of development is from the bottom up from elementary and low features to high type's features;

## **Scientific Concepts**

- can be created only if individual's spontaneous concepts reach a definite level;
- characterized by individual's reflective awareness and deliberate control;
- decisively influenced by adults;
- part of a single process;
- scientific concepts develop from the top down, from a higher type's feature to a low one

All concepts, both spontaneous as well as scientific, are appropriated from the culture in the course of specific forms of intermental activity (Wells, 1994). Moreover, the conceptual resources available for appropriation vary from one culture to another as a result of the particular conditions encountered in their different trajectories of historical development (Wells, 1994).

Researchers point out (Vygotsky, 1934/1962; Piaget, 1962) that a total system of concepts is of great importance in the course of development.

L. Vygotsky highlights that from the point of view of psychology the development of concepts and the development of word meaning are one and the same process (Vigotskis, 2002).

L. Vygotsky (Vigotskis, 2002) points out that scientific concept and professional concept (Mylett, Gluck, 2004) learning differs from spontaneous concept acquiring as foreign and professional (Mylett, Gluck, 2005) language learning differs from native language acquiring that is why L. Vygotsky points out (Vigotskis, 2002) the types of relationships between spontaneous concept and mother tongue; between scientific concept and foreign language; between spontaneous and scientific concepts and/or mother tongue and foreign language that are seen as follows: inner and outer conditions of forming spontaneous concept coincide with inner and outer conditions of acquiring mother tongue; inner and outer conditions of developing scientific concept coincide with inner and outer conditions of learning foreign language; inner and outer conditions of forming spontaneous concept and of acquiring mother tongue are different from inner and outer conditions of developing scientific concept and of learning foreign language. If the development of the native language begins with free, spontaneous use of speech and is culminated in the conscious realization of linguistic forms and their mastery, then development of a foreign language begins with conscious realization of language and arbitrary command of it and culminates in spontaneous, free speech. But, between those opposing paths of development, there exists a mutual dependency just as between the development of scientific and spontaneous concepts" (John-Steiner by Robbins, 2007).

That is why to consider the spontaneous, scientific and professional concepts means to discuss the mother and foreign and professional language.

Moreover, L. Vygotsky points out the significance of concept development from the psychological point of view (Vigotskis, 2002): the level of individual's actual development (Леонтьев, 1982) is determined by the level of spontaneous concept acquiring; meanwhile the level of scientific concept gaining reveals the zone of individual's proximal development (Леонтьев, 1982).

Hence, professional language is placed within the stable understanding of the unity of all language (Robbins, 2007) where professional language is seen as an integral part of all language.

### **Defining Professional Language**

The *professional language* definition in the frame of the present research based on understanding what English for Specific Purposes is (Hutchinson, Waters, 1987; Dudley-Evans and John, 1998; Jordan, 1997; etc.), on understanding of a variety of a language (home, national, mother, native, etc) (Byram, 2006) and on realizing learning as professional activity (Maslo I., 2006c) is seen as native language for specific purposes.

## **Empirical study**

The sample of the present empirical study involves 5 students of Fourth Baltic Summer School *Technical Informatics and Information Technology* at the Institute of Computer Science of the Tartu University, August 8-23, 2008, Tartu, Estonia. All 5 students have got Bachelor or Master Degree in different fields of Computer Sciences and working experience in different fields. English is a foreign language for all the group students.

The International Summer School offers special courses in English to support the internationalization of education and the cooperation among the universities of the Baltic Sea Region.

The aims of the Baltic Summer Schools *Technical Informatics and Information Technology* are determined as preparation for international Master and Ph.D. programs in Germany, further specialization in computer science and information technology and learning in a simulated environment.

Student social experience in Professional Language as a criterion of student communicative competence was evaluated by the student him/herself on the first day of the

Baltic Summer School 2008, namely, August 8, 2008, and on the seventh day, namely, August 15, 2008.

The list of the student social experience in Professional Language self-evaluation was offered to the students that involved 12 constructs, i. e. 6 constructs of social interaction experience in Professional Language and 6 constructs of cognitive activity experience in Professional Language for each student social experience self-evaluation: social interaction means that students (Žogla, 2007) participate in the activity, exchange ideas with others, cooperate with others, analyze a problem, are in the dialogue and search for problem solving tools together with others; cognitive activity is seen while students (Maslo, E., 2007) regulate his/her own learning process, set his/her own goals, take responsibility for his/her own learning, work independently, evaluate his/her own learning process and continue to improve his/her own skills.

The evaluation scale of five levels for each question is given where "1" means low level of communicative competence and "6" points out high level of communicative competence.

The summary of Measurement 1 results of the students' communicative competence within the Baltic Summer School 2008 allows drawing a conclusion that the critical level of communicative competence dominates in the English group.

Between Measurement 1 and 2 of the students' communicative competence English for Academic Purposes activity was applied within the courses in Technical Informatics and Information Technology, preconference tutorials for introduction into advanced research topics, attendance of conference *Advanced Topics in Telecommunication*, tutorials and practical tasks, language training for talk and presentation, leisure activities and social contacts, practical work at IT Company Webmedia.

The result summary of Measurement 2 of the students' social experience in Professional Language within the Baltic Summer School 2008 allows drawing a conclusion that the average level of student social experience in Professional Language dominates in the English group.

The result comparison of Measurement 1 and Measurement 2 of social experience constructs average coefficient in order to determine the developmental dynamics of the average coefficient of each student social experience in Professional Language construct revealed that the level of the students' communicative competence had been improved by the increase of four social experience construct average coefficient, namely, SP-1\_ca (Student regulates his/her own learning process), SP-2\_ca (Student sets his/her own goals), SP-3\_ca (Student takes responsibility for his/her own learning), SP-5\_ca (Student evaluates his/her own learning process); the level of the students' communicative competence had been remained at the same level by five social experience construct average coefficient, namely, SP-2\_si (Student exchanges ideas), SP-3\_si (Student co-operates with others), SP-6\_si (Student searches for problem solving tools together with others), SP-4\_ca (Student works independently), SP-6\_ca (Student continues to improve his/her own skills); the level of the students' communicative competence had been improved by three social experience construct average coefficient, namely, SP-1\_si (Student participates in the activity), SP-4\_si (Student analyzes a problem with others) and SP-5\_si (Student is in the dialogue).

#### **RESULTS**

Having summarized the individual results of two measurements of the students' social experience in Professional Language within the Baltic Summer School 2008 the positive changes have been revealed: two students has improved the level of social experience in Professional Language.

#### **CONCLUSION**

The issue here is that the emphasis of the System-Constructivist Theory on the subjective aspect of human being's point of view and experience that plays the central role in a construction process makes the search for a definition of professional language difficult.

The solution here is the necessity in social interactions where the expert can model the appropriate solution, assist in finding a solution, and monitor the students' progress (Benson, 1995).

The recommendation here is the role of experts as mentors for researcher self-discovery and self-realization; to help motivate teachers, to stimulate their interests, to help them develop their own structure and style, as well as help them to evaluate their performance and be able to apply these findings to improve (Maslo, E., 2007) their professional language.

Professional language offers many interesting opportunities for language education lifelong, life-near and lifewide.

Further research on professional language includes subject-content structure of professional language, activity modelling for developing professional language within a multicultural environment, factor analysis, determination of a system of criteria and indicators, and levels of professional language and empirical studies.

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